

CLAIMS

1. A rotating device comprising:
  - a) a rotatable body;
  - b) inside said rotatable body, a rotation data measuring means;
  - c) a control unit, said control unit configured to receive data relating to rotation of said body from said rotation data measuring means.
2. The device of claim 1 wherein said body is a toy.
3. The device of claim 1 wherein said body is substantially one of the objects selected from the group consisting of tops, flying disks, flying rings, boomerangs, roulette wheels yo-yos balls and ko-en-gen.
4. The device of claim 1 wherein all components of said rotation data measuring means are associated with said rotatable body.
5. The device of claim 1 wherein said rotation data measuring means are configured to produce a substantially sinusoidal output signal having a frequency related to rotation of said body.
6. The device of claim 5 wherein said rotation data measuring means comprise a means for detecting a magnetic field.
7. The device of claim 6 wherein said rotation data measuring means comprise a means for detecting the earth's magnetic field.

8. The device of claim 6 wherein said control unit is configured to determine a true direction from said data received from said rotation measuring means.

9. The device of claim 6 wherein said rotation data measuring means comprises an induction coil.

10. The device of claim 5 further comprising a signal-amplifying means, configured to input said sinusoidal signal from said rotation data measuring mean, to amplify said sinusoidal signal so as to convert said signal to a substantially rectangular wave signal having a frequency substantially identical to the frequency of said sinusoidal signal, and to output said substantially rectangular wave signal to said control unit.

11. The device of claim 1 further comprising:

- d) a display means disposed along at least a portion of said body;
- e) a display control means for controlling the display of images on said display means; and
- f) a clock means coupled to said display control means for refreshing the display of images on said display means at a clocking rate, wherein said clocking rate is dependent on said rotation data.

12. The device of claim 11 wherein said display mechanism comprises a plurality of independently activatable and deactivatable light sources.

13. The device of claim 1 further comprising at least one switch, said at least one switch configured to transfer commands to said control unit.
14. The device of claim 11 wherein said control unit is configured to calculate a number of revolutions that said rotatable body has performed and display said number of revolutions using said display mechanism.
15. The device of claim 11 wherein said control unit is configured to calculate a rate of rotation of said rotatable body and display said rate of rotation using said display mechanism.
16. The device of claim 1 further comprising a wireless data receiver, said receiver configured to receive data from a remote location and pass said data to said control unit.
17. The device of claim 1 further comprising a wireless data transceiver, said transceiver configured to receive rotation data from said control unit and transmit said rotation data to a remote location and further configured to receive data from a remote location and pass said data to said control unit.
18. The device of claim 1 comprising a perturbation generating means, said perturbation generating means configured to receive rotation data from said control unit and to generate periodic perturbations synchronized with the rotation of the device so as to cause said rotatable body to move in a prescribed direction.
19. The device of claim 18 further comprising a wireless data receiving means, configured to receive data from a remote location and pass said data to said control unit.

20. The device of claim 18 where said perturbation generating means comprise a mass moving means configured to periodically move the center of mass of said rotatable body.

21. The device of claim 18 where said perturbation generating means comprise an air-resistance varying means configured to periodically change the air resistance of said rotatable body.

22. The device of claim 7 further comprising:

- d) a display means disposed along at least a portion of said body;
- e) a display control means for controlling the display of images on said display mechanism; and
- f) a clock means coupled to said display control means for refreshing the display of images on said display means at a clocking rate, wherein said clocking rate is dependent on said rotation data.

23. The device of claim 7 further comprising a wireless data receiver, said receiver configured to receive data from a remote location and pass said data to said control unit.

24. The device of claim 7 further comprising a wireless data transceiver, said transceiver configured to receive rotation data from said control unit and transmit said rotation data to a remote location and further configured to receive data from a remote location and pass said data to said control unit.

25. The device of claim 7 comprising a perturbation generating means, said perturbation generating means configured to receive rotation data from said control unit and to generate periodic perturbations synchronized with the rotation of the device so as to cause said rotatable body to move in a prescribed direction.
26. The device of claim 25 further comprising a wireless data receiving means, configured to receive data from a remote location and pass said data to said control unit.
27. The device of claim 25 where said perturbation generating means comprise a mass moving means configured to periodically move the center of mass of said rotatable body.
28. The device of claim 25 where said perturbation generating means comprise an air-resistance varying means configured to periodically change the air resistance of said rotatable body.
29. The device of claim 11 further comprising a wireless data receiver, said receiver configured to receive data from a remote location and pass said data to said control unit.
30. The device of claim 11 further comprising a wireless data transceiver, said transceiver configured to receive rotation data from said control unit and transmit said rotation data to a remote location and further configured to receive data from a remote location and pass said data to said control unit.
31. The device of claim 11 comprising a perturbation generating means, said perturbation generating means configured to receive rotation data from said control unit and to generate

periodic perturbations synchronized with the rotation of the device so as to cause said rotatable body to move in a prescribed direction.

32. The device of claim 31 further comprising a wireless data receiving means, configured to receive data from a remote location and pass said data to said control unit.

33. The device of claim 32 where said perturbation generating means comprise a mass moving means configured to periodically move the center of mass of said rotatable body.

34. The device of claim 32 where said perturbation generating means comprise an air-resistance varying means configured to periodically change the air resistance of said rotatable body.